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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/828,194	04/09/2001	Yasushi Yokosuka	503.39296X00	3668
20457	7590	06/23/2005	EXAMINER	
ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-3873			YAO, KWANG BIN	
			ART UNIT	PAPER NUMBER
			2667	

DATE MAILED: 06/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/828,194	YOKOSUKA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Kwang B. Yao	2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 18 February 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 4, 6, 8-11, 25-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vatt et al. (US 5,894,590) in view of Dempo (US 6,321,088).

Vatt et al. discloses a communication system comprising the following features:  
regarding claim 1, an information-transmission system which uses non-geosynchronous artificial satellites (FIG. 2, SATELLITE 1, 2), including a server-system (FIG. 3, EARTH STATION) and its clients apparatuses, for performing communications or broadcast, said system comprising:  
means for controlling changeover (FIG. 8, STEP 59) of a non-geosynchronous artificial satellite (FIG. 2, SATELLITE 1, 2) being used, to another satellite (FIG. 2, SATELLITE 1, 2) to be next used; regarding claim 25, wherein said means for controlling changeover (FIG. 8, STEP 59) of a non-geosynchronous artificial satellite (FIG. 2, SATELLITE 1, 2) being used, to another satellite (FIG. 2, SATELLITE 1, 2) to be next used, is provided in at least one of said satellites (FIG. 2, SATELLITE 1, 2); regarding claim 29, a method of sending an information packet which is going to be sent during a period which includes the time of satellite-changeover (FIG. 2, SATELLITE 1, 2) used for an information-transmission system which uses non-geosynchronous artificial satellites (FIG. 2, SATELLITE 1, 2), including a server-system (FIG. 3, EARTH

STATION) and its clients apparatuses, for performing communications or broadcast; said method comprising the steps of: taking in the time of satellite-changeover (FIG. 8, STEP 59) which is going to be performed. See column 2-6.

Vatt et al. does not disclose the following features: regarding claim 1, wherein said server-system determines whether or not a satellite-changeover occurs during sending of an information packet to be sent toward a satellite being used, one of said non-geosynchronous artificial satellites, and if it is determined that a satellite-changeover occurs during sending of said information packet to be sent, said server-system postpones sending of said information packet to be sent, and starts sending of said information packet to be sent, after completion of said satellite-changeover; regarding claim 3, wherein said server-system informs each satellite of at least one of; the start time of, the time necessary for, and the end time of said satellite-changeover; regarding claim 4, wherein, if it is determined that a satellite-changeover occurs during sending of an information packet to be sent, each client postpones sending of said information packet to be sent, and starts sending of said information packet to be sent, after said completion of said satellite-changeover; regarding claim 6, wherein the start time of sending said information packet to be sent, after said completion of said satellite-changeover, is set to a random time; regarding claim 8, wherein said server-system informs each client apparatus that said satellite-changeover is in operation; regarding claim 9, wherein each client apparatus displays that said satellite-changeover is in operation, on its display device; regarding claim 10, wherein said servant-system controls each client apparatus so as to display that said satellite-changeover is in operation, on its display device; regarding claim 11, wherein a data region in which at least one of; the start time of, the time necessary for, and the end time of said satellite-

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changeover is set, is provided in an information packet which is sent from said server-system to each client apparatus; regarding claim 26, wherein the time of each satellite-changeover is set to at least one of said satellites; regarding claim 27, wherein the time of each satellite-changeover is determined based on the position data of said satellites, and is set to at least one of said satellites; regarding claim 28, wherein one of; said satellite which has been used, and said satellite which is ready to be used, informs the server-system of the completion of said satellite-changeover; regarding claim 29, determining whether or not said satellite-changeover will occur during sending of an information packet to be sent; send said information packet if it is determined that said satellite-changeover will not occur during sending of said information packet; and postponing sending of said information packet until completion of said satellite-changeover if it is determined that said satellite-changeover will occur during sending of said information packet.

Dempo discloses a communications system comprising the following features: regarding claim 1, wherein said server-system determines (column 34-36) whether or not a satellite-changeover occurs during sending of an information packet to be sent toward a satellite being used, one of said non-geosynchronous artificial satellites, and if it is determined (column 34-36) that a satellite-changeover occurs during sending of said information packet to be sent, said server-system postpones (FIG. 18, SUSPEND) sending of said information packet to be sent, and starts sending of said information packet to be sent, after completion (FIG. 18, RESUME) of said satellite-changeover; regarding claim 3, wherein said server-system informs each satellite of at least one of; the start time (column 5, lines 58-65; column 15, lines 16-22) of, the time (column 5, lines 58-65; column 15, lines 16-22) necessary for, and the end time (column 5, lines 58-65; column 15, lines 16-22) of said satellite-changeover; regarding claim 4, wherein, if it is

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determined (column 34-36) that a satellite-changeover occurs during sending of an information packet to be sent, each client postpones (FIG. 18, SUSPEND) sending of said information packet to be sent, and starts sending of said information packet to be sent, after said completion (FIG. 18, RESUME) of said satellite-changeover; regarding claim 6, wherein the start time (column 5, lines 58-65; column 15, lines 16-22) of sending said information packet to be sent, after said completion (FIG. 18, RESUME) of said satellite-changeover, is set to a random time (column 5, lines 58-65; column 15, lines 16-22); regarding claim 8, wherein said server-system informs each client apparatus that said satellite-changeover is in operation; regarding claim 9, wherein each client apparatus displays that said satellite-changeover is in operation, on its display device; regarding claim 10, wherein said servant-system controls each client apparatus so as to display that said satellite-changeover is in operation, on its display device; regarding claim 11, wherein a data region in which at least one of; the start time (column 5, lines 58-65; column 15, lines 16-22) of, the time (column 5, lines 58-65; column 15, lines 16-22) necessary for, and the end time (column 5, lines 58-65; column 15, lines 16-22) of said satellite-changeover is set, is provided in an information packet which is sent from said server-system to each client apparatus; regarding claim 26, wherein the time (column 5, lines 58-65; column 15, lines 16-22) of each satellite-changeover is set to at least one of said satellites; regarding claim 27, wherein the time (column 5, lines 58-65; column 15, lines 16-22) of each satellite-changeover is determined (column 34-36) based on the position (column 3, lines 15-20; column 8, lines 1-4) (column 3, lines 15-20; column 8, lines 1-4) data of said satellites, and is set to at least one of said satellites; regarding claim 28, wherein one of; said satellite which has been used, and said satellite which is ready to be used, informs the server-system of the completion (FIG. 18, RESUME) of said satellite-

changeover; regarding claim 29, determining whether or not said satellite-changeover will occur during sending of an information packet to be sent; send said information packet if it is determined (column 34-36) that said satellite-changeover will not occur during sending of said information packet; and postponing sending of said information packet until completion (FIG. 18, RESUME) of said satellite-changeover if it is determined (column 34-36) that said satellite-changeover will occur during sending of said information packet. See column 1-38. It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Vatt et al., by using features, as taught by Dempo, in order to provide an efficient communication system by reducing the process delay. See Dempo, column 2, lines 9-15 and lines 48-50.

3. Claims 2, 5, 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vatt et al. (US 5,894,590) in view of Dempo (US 6,321,088) as applied to claims 1, 3, 4, 29 above, and further in view of Sawyer (US 6,603,972).

Vatt et al. and Dempo disclose the claimed limitations above. Vatt et al. and Dempo do disclose the following features: regarding claim 2, wherein said information packet to be sent, whose sending has been postponed, is sent after said completion of said satellite-changeover, along with the last m items of information packets, which were sent before said satellite-changeover, and are sent before said information packet to be sent; where m indicates an integer not less than 0; regarding claim 5, wherein each client apparatus sends said information packet to be sent, whose sending has been postponed, after said completion of said satellite-changeover, along with the last m items of information packets which were sent before said satellite-changeover, and are inserted and sent before said information packet to be sent; where m

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indicates an integer not less than 0; regarding claim 30, wherein said information packet to be sent, whose sending has been postponed, is sent after said completion of said satellite-changeover, along with the last  $m$  items of information packets which were sent before said satellite-changeover, and are inserted and sent before said information packet to be sent; where  $m$  indicates an integer not less than 0.

Sawyer discloses a communication system comprising the following features: regarding claim 2, wherein said information packet to be sent, whose sending has been postponed, is sent after said completion of said satellite-changeover, along with (column 1, lines 57-61) the last  $m$  items of information packets, which were sent before said satellite-changeover, and are sent before said information packet to be sent; where  $m$  indicates an integer not less than 0; regarding claim 5, wherein each client apparatus sends said information packet to be sent, whose sending has been postponed, after said completion of said satellite-changeover, along with (column 1, lines 57-61) the last  $m$  items of information packets which were sent before said satellite-changeover, and are inserted and sent before said information packet to be sent; where  $m$  indicates an integer not less than 0; regarding claim 30, wherein said information packet to be sent, whose sending has been postponed, is sent after said completion of said satellite-changeover, along with (column 1, lines 57-61) the last  $m$  items of information packets which were sent before said satellite-changeover, and are inserted and sent before said information packet to be sent; where  $m$  indicates an integer not less than 0. See column 1-9. It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Vatt et al. and Dempo, by using features, as taught by Sawyer, in order to provide reliable communication system. See Sawyer, column 1, lines 54-57.



4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vatt et al. (US 5,894,590) in view of Dempo (US 6,321,088) as applied to claims 1, 3 above, and further in view of Sauvageot et al. (US 6,128,488).

Vatt et al. and Dempo disclose the claimed limitations above. Vatt et al. and Dempo do disclose the following features: regarding claim 7, wherein, if it is determined that a satellite-changeover occurs during sending of an information packet to be sent, each client repeatedly sends said information packet to be sent, until said completion of said satellite-changeover. Sauvageot et al. discloses a communication system comprising the following features: regarding claim 7, wherein, if it is determined that a satellite-changeover occurs during sending of an information packet to be sent, each client repeatedly sends (column 2, lines 36-46) said information packet to be sent, until said completion of said satellite-changeover. It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Vatt et al. and Dempo, by using features, as taught by Sauvageot et al., in order to provide an efficient data communication system by alleviating the interruption of communication caused by the communication link handover procedure. See Sauvageot et al., column 5, lines 18-25.

5. Claims 12, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vatt et al. (US 5,894,590) in view of Sauvageot et al. (US 6,128,488).

Vatt et al. discloses a communication system comprising the following features: regarding claim 12, an information-transmission system which uses non-geosynchronous artificial satellites, including a server-system (FIG. 3, EARTH STATION) and its clients apparatuses, for performing communications or broadcast, said system comprising: means for

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controlling changeover (FIG. 8, STEP 57) of a non-geosynchronous artificial satellite being used, to another satellite to be next used; regarding claim 22, wherein said means for controlling (FIG. 8, STEP 59) changeover of a non-geosynchronous artificial satellite being used, to another satellite to be next used, is provided in said server-system (FIG. 3, EARTH STATION). See column 1-6.

Vatt et al. does not disclose the following features: regarding claim 12, wherein said server-system determines whether or not a satellite-changeover occurs during sending of an information packet to be sent toward a satellite being used, one of said non-geosynchronous artificial satellites, and if it is determined that a satellite-changeover occurs during sending of said information packet to be sent, said server-system repeatedly sends said information packet to be sent, until completion of said satellite-changeover.

Sauvageot et al. discloses a communication system comprising the following features: regarding claim 12, wherein said server-system determines whether or not a satellite-changeover occurs during sending of an information packet to be sent toward a satellite being used, one of said non-geosynchronous artificial satellites, and if it is determined that a satellite-changeover occurs during sending of said information packet to be sent, said server-system repeatedly (column 2, lines 36-46) sends said information packet to be sent, until completion of said satellite-changeover. It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Vatt et al., by using features, as taught by Sauvageot et al., in order to provide an efficient data communication system by alleviating the interruption of communication caused by the communication link handover procedure. See Sauvageot et al., column 5, lines 18-25.

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6. Claims 13, 14, 16-21, 23-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vatt et al. (US 5,894,590) in view of Sauvageot et al. (US 6,128,488) as applied to claim 12 above, and further in view of Dempo (US 6,321,088).

Vatt et al. and Sauvageot et al. disclose the claimed limitations above. Sauvageot et al. further discloses the following features: regarding claim 17, wherein if it is determined that a satellite-changeover occurs during sending of an information packet to be sent, each client repeatedly sends (column 2, lines 36-46) said information packet to be sent, until said completion of said satellite-changeover. Vatt et al. and Sauvageot et al. do not disclose the following features: regarding claim 13, wherein said server-system informs each satellite of at least one; of the start time of, the time necessary for, and the end time of said satellite-changeover; regarding claim 14, wherein, if it is determined that a satellite-changeover occurs during sending of an information packet to be sent, each client postpones sending of said information packet to be sent, and starts sending of said information packet to be sent, after said completion of said satellite-changeover; regarding claim 16, wherein the start time of sending said information packet to be sent, after said completion of said satellite-changeover, is set to a random time; regarding claim 18, wherein said server-system informs each client apparatus that said server-system informs each client apparatus that said satellite-changeover is in operation; regarding claim 19, wherein each client apparatus displays that said satellite-changeover is in operation, on its display device; regarding claim 20, wherein said servant-system controls each client apparatus so as to display that said satellite-changeover is in operation, on its display device; regarding claim 21, wherein a data region in which at least one of; the start time of, the time necessary for, and the end time of said satellite-changeover is set, is provided in an information packet which is

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sent from said server-system to each client apparatus; regarding claim 23, wherein the time of each satellite-changeover is set to said server-system in advance; regarding claim 24, wherein the time of each satellite-changeover is determined based on the position data of said satellites, and is set to said server-system; regarding claim 25, wherein said means for controlling changeover of a non-geosynchronous artificial satellite being used, to another satellite to be next used, is provided in at least one of said satellites; regarding claim 26, wherein the time of each satellite-changeover is set to at least one of said satellites; regarding claim 27, wherein the time of each satellite-changeover is determined based on the position data of said satellites, and is set to at least one of said satellites; regarding claim 28, wherein one of; said satellite which has been used, and said satellite which is ready to be used, informs the server-system of the completion of said satellite-changeover.

Dempo discloses a communication system comprising the following features: regarding claim 13, wherein said server-system informs each satellite of at least one; of the start time (column 5, lines 58-65; column 15, lines 16-22) of, the time (column 5, lines 58-65; column 15, lines 16-22) necessary for, and the end time (column 5, lines 58-65; column 15, lines 16-22) of said satellite-changeover; regarding claim 14, wherein, if it is determined (column 34-36) that a satellite-changeover occurs during sending of an information packet to be sent, each client postpones (FIG. 18, SUSPEND) sending of said information packet to be sent, and starts sending of said information packet to be sent, after said completion (FIG. 18, RESUME) of said satellite-changeover; regarding claim 16, wherein the start time (column 5, lines 58-65; column 15, lines 16-22) of sending said information packet to be sent, after said completion (FIG. 18, RESUME) of said satellite-changeover, is set to a random time (column 5, lines 58-65; column 15, lines 16-

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22); regarding claim 18, wherein said server-system informs each client apparatus that said server-system informs each client apparatus that said satellite-changeover is in operation; regarding claim 19, wherein each client apparatus displays that said satellite-changeover is in operation, on its display device; regarding claim 20, wherein said servant-system controls each client apparatus so as to display that said satellite-changeover is in operation, on its display device; regarding claim 21, wherein a data region in which at least one of; the start time (column 5, lines 58-65; column 15, lines 16-22) of, the time (column 5, lines 58-65; column 15, lines 16-22) necessary for, and the end time (column 5, lines 58-65; column 15, lines 16-22) of said satellite-changeover is set, is provided in an information packet which is sent from said server-system to each client apparatus; regarding claim 23, wherein the time (column 5, lines 58-65; column 15, lines 16-22) of each satellite-changeover is set to said server-system in advance; regarding claim 24, wherein the time (column 5, lines 58-65; column 15, lines 16-22) of each satellite-changeover is determined (column 34-36) based on the position data of said satellites, and is set to said server-system; regarding claim 25, wherein said means for controlling changeover of a non-geosynchronous artificial satellite being used, to another satellite to be next used, is provided in at least one of said satellites; regarding claim 26, wherein the time (column 5, lines 58-65; column 15, lines 16-22) of each satellite-changeover is set to at least one of said satellites; regarding claim 27, wherein the time (column 5, lines 58-65; column 15, lines 16-22) of each satellite-changeover is determined (column 34-36) based on the position data of said satellites, and is set to at least one of said satellites; regarding claim 28, wherein one of; said satellite which has been used, and said satellite which is ready to be used, informs the server-system of the completion (FIG. 18, RESUME) of said satellite-changeover. See column 1-38. It

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would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Vatt et al. and Sauvageot et al., by using features, as taught by Dempo, in order to provide an efficient communication system by reducing the process delay. See Dempo, column 2, lines 9-15 and lines 48-50.

7. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vatt et al. (US 5,894,590) in view of Sauvageot et al. (US 6,128,488) and Dempo (US 6,321,088) as applied to claims 12 and 14 above, and further in view of Sawyer (US 6,603,972).

Vatt et al., Sauvageot et al. and Dempo disclose the claimed limitations above. Vatt et al., Sauvageot et al. and Dempo do not disclose the following features: regarding claim 15, wherein each client apparatus sends said information packet to be sent, whose sending has been postponed, after said completion of said satellite-changeover, along with the last m items of information packets which were sent before said satellite-changeover, and are inserted and sent before said information packet to be sent; where m indicates an integer not less than 0.

Sawyer discloses a communication system comprising the following features: regarding claim 15, wherein each client apparatus sends said information packet to be sent, whose sending has been postponed, after said completion of said satellite-changeover, along with (column 1, lines 57-61) the last m items of information packets which were sent before said satellite-changeover, and are inserted and sent before said information packet to be sent; where m indicates an integer not less than 0. See column 1-9. It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Vatt et al. Sauvageot et al., and Dempo, by using features, as taught by Sawyer, in order to provide reliable communication system. See Sawyer, column 1, lines 54-57.

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sale et al. (US 6,662,011) discloses a method for handing of.

Porcelli et al. (US 6,333,924) discloses a high latitude satellite system.

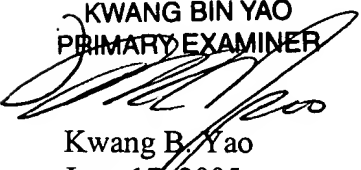
Moritz et al. (US 5,483,664) discloses a cellular communications network.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kwang B. Yao whose telephone number is 571-272-3182. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H. Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KWANG BIN YAO  
PRIMARY EXAMINER

  
Kwang B. Yao  
June 17, 2005